

Work Order ID 61579

Monday, August 30, 2010 12:44:16 PM



Page 1

Item ID: D3319-1

Accept



Setup Start



Revision ID:

Stop



Item Name: Wearplate

Start Date: 8/30/2010 Start Qty: 6.00



Cust Item ID:

Required Date: 9/6/2010 Req'd Qty: 6.00



Customer:

Reference:

Approvals:

Process Plan:

14

Date: *10-8-30* Tooling:

Date:

Run Start



QC:

Date: SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D3319

Rev B

100

0.00



FLOW WATER JET

Waterjet

Memo

0.00

FLOW CNC Waterjet
1010 050

1-Cut as per Dwg D3319 ☐ Dwg Rev: *B* ☐ Prog Rev: *B* ☐ 2-
Debur if necessary

B10-9-15

(6)

110

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

Quality Control

B10-9-15

120

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

Quality Control

810109/16

(x6)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 61579

Monday, August 30, 2010 12:44:16 PM



Page 2

Item ID: D3319-1

Accept



Setup Start



Revision ID:

Stop



Item Name: Wearplate

Start Date: 8/30/2010 Start Qty: 6.00



Cust Item ID:

Required Date: 9/6/2010 Req'd Qty: 6.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 	Small Fab	0.00							
Small Fab	Memo	0.00							
Small Fab	Deburr if necessary								
140 	NC BRAKE	0.00							
Brake NC	Memo	0.00							
Brake NC	1- Form using DT8326 & DT8261 as per Dwg D3319Rev: <u>B</u> <input type="checkbox"/> 2- Form flat on press using DT8776 block								
150 	QC6- Inspect dimensions to drawing	0.00							
QC	Memo	0.00							
Quality Control									

WLAS

20 10/09/17

8/10/09/17

6

16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 61579

Page 5

Monday, August 30, 2010 12:44:16 PM

Item ID:	D3319-1	Accept		Setup	Start	
Revision ID:						
Item Name:	Wearplate				Stop	
Start Date:	8/30/2010	Start Qty:	6.00			
Required Date:	9/6/2010	Req'd Qty:	6.00			
Reference:						

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							
Quality Control									

10/10/05

mf
10-10-05

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, August 30, 2010 12:44:21 PM

Page 1

Work Order ID: 61579

Parent Item: D3319-1

Parent Item Name: Wearplate




Start Date: 8/30/2010

Required Date: 9/6/2010

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP: B05.10.14 Added step 9, dwg rev B KJ/EC
IPP Rev:C Now on Waterjet 06-10-26 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M1010S18GA  1010/1025 SHEET .048		Purchased	No			100	sf	10.4585	0.628	3.966316			



1810-9-15

Location

MAT19

114225

~~101~~

Loc Qty

10.45853

10.45853

Loc Code

114 225

6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	61579
Description: Wearplate		Part Number:	D3319-1
Inspection Dwg: D3319 Rev: B		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
4.984	+/-0.010	4.986	*		V 1862	
1.600	+/-0.010	1.600	*		V	
2.660	+/-0.010	2.657	*		V	
3.190	+/-0.010	3.188	*		V	
3.563	+/-0.010	3.568	*		V	
4.712	+/-0.010	4.707	*		V	
0.60	+/-0.030	.600	*		V	
10.576	+/-0.010	10.576	*		T 1801	
11.942	+/-0.010	11.942	*		T	
18.09	+/-0.030	18.09	*		T	
Ø0.316 x 0.546	+0.006/-0.001 x +/-0.010	.317 x .547	*		V	
Ø0.316 x 0.670	+0.006/-0.001 x +/-0.010	.317 x .676	*		V	
Ø0.190	+0.005/-0.001	.193	*		V	

Measured by: IB	Audited by: J	Prototype Approval:	N/A
Date: 10-9-15	Date: 10/09/16	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	07.05.31	New Issue	KJ/JLM	<i>[Signature]</i>

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

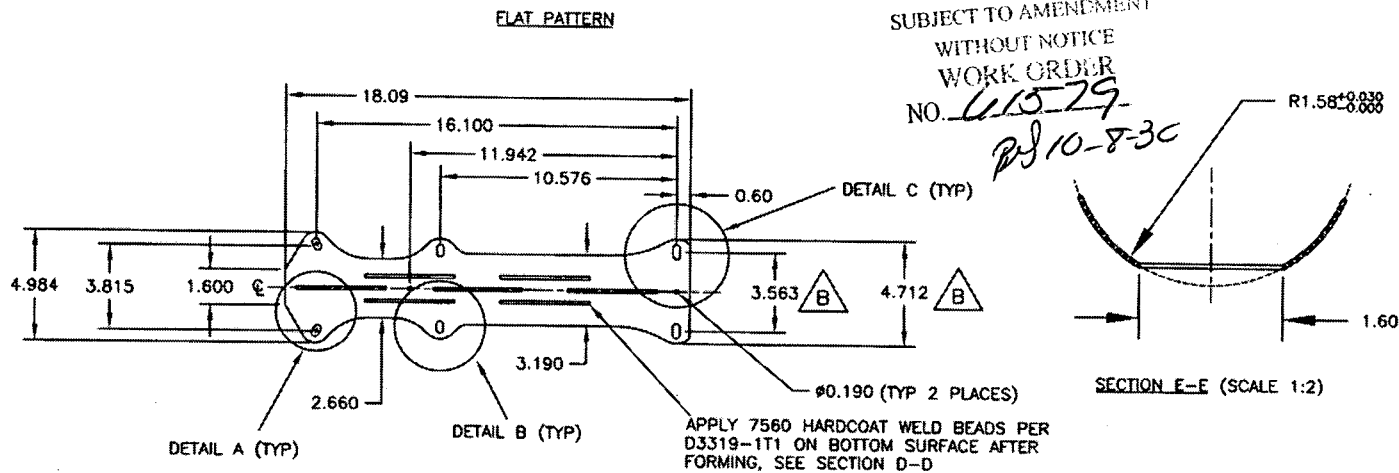
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

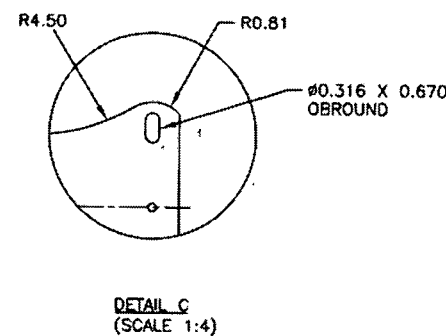
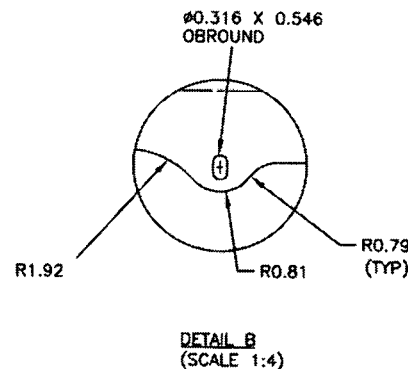
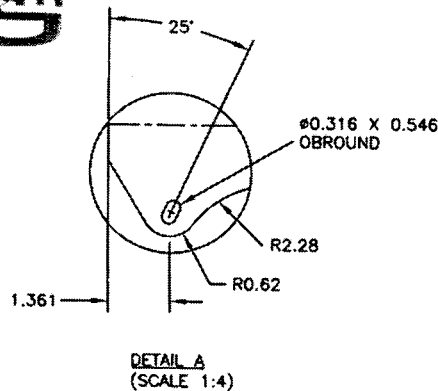
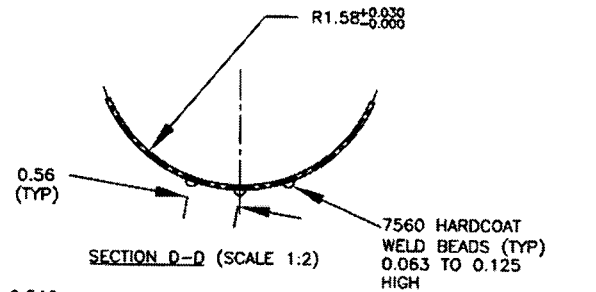
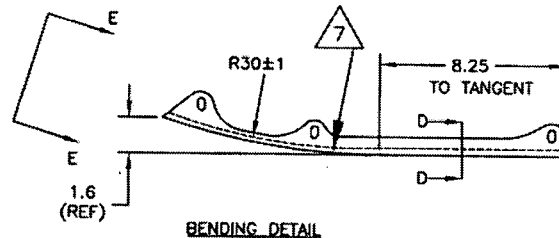
SHOP COPY
RETURN TO
ENGINEERING

UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 415-29
2810-8-3C

DART



RELEASED
05-09-30



D3319-1 WEARPLATE

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A1008 OR CSA G40-21, 38W/44W/50W/60W/70W SERIES STEEL 18 GAUGE (0.048 THICK)
- 2) FINISH: POWDER COAT GREY SANDTEX (REF.4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) PART IS SYMMETRICAL ABOUT CENTERLINE
- 5) ALL DIMENSIONS IN INCHES
- 6) WELD PER DART QSI 004
- 7) IDENTIFY ON INSIDE SURFACE AS INDICATED USING FINE POINT PERMANENT INK MARKER:
"TCCA-PDA, DART AEROSPACE LTD., P/N D3319-1 B/N BXXXX, FOR PRODUCT ELIGIBILITY SEE PDA05-18"

DESIGN	DRAWN BY	DART AEROSPACE LTD
P41	P41	HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO.
		D3319
DATE	TITLE	REV. B
05.06.06	WEARPLATE	SHEET 1 OF 5
A	04.09.24	NEW ISSUE
B	05.06.06	WIDEN HOLES, REDUCE WIDTH -3/-5/-7
		SCALE 1:8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector



Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

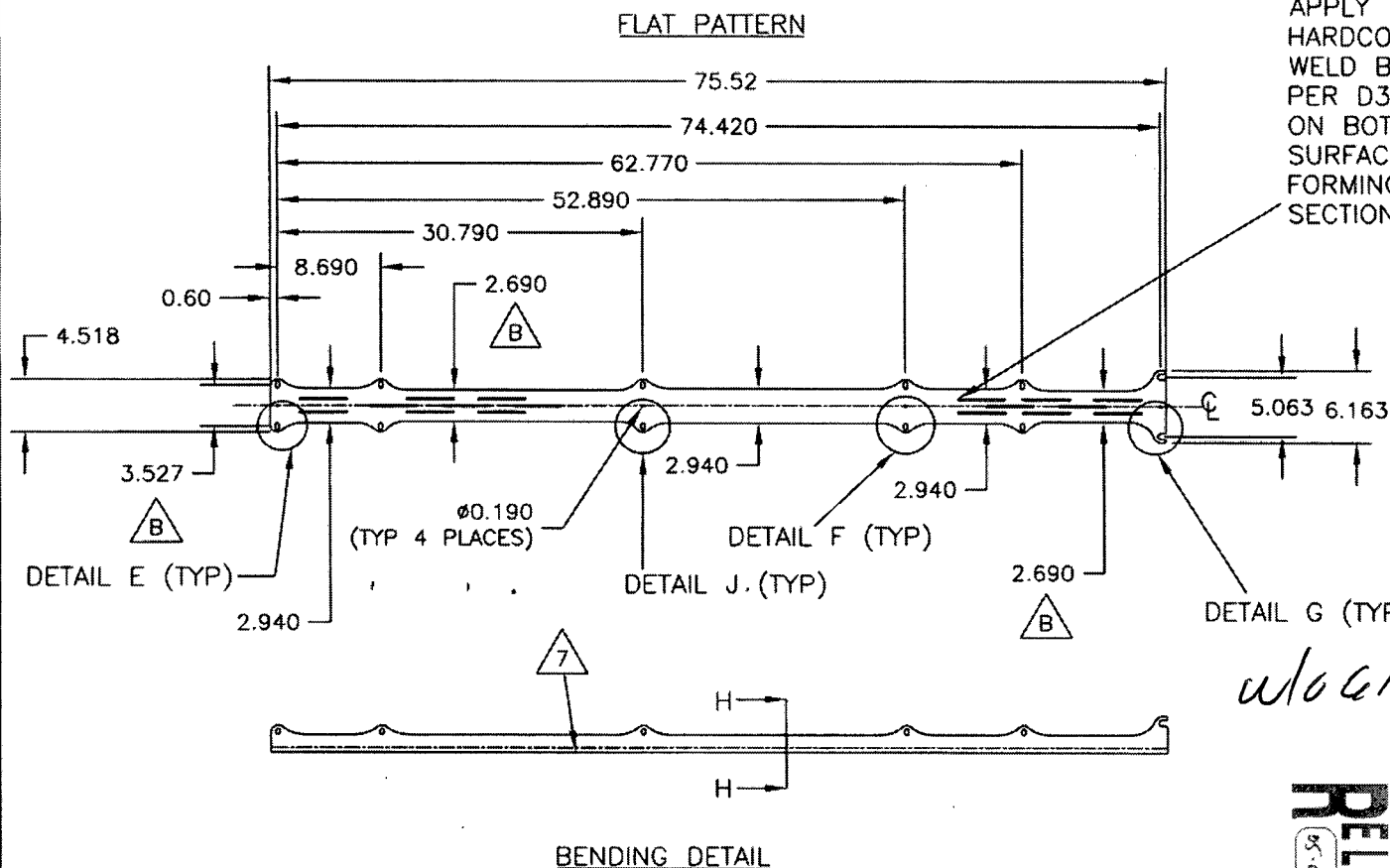
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>GH</i> 	APPROVED <i>GH</i> 	DRAWING NO.	REV. B
		D3319	SHEET 2 OF 5
DATE		TITLE	SCALE
05.06.06		WEARPLATE	1:15

APPLY 7560
HARDCOAT
WELD BEADS
PER D3319-3T1
ON BOTTOM
SURFACE AFTER
FORMING, SEE
SECTION H-H



05-07-30
6

D3319-3 WEARPLATE

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A1008 OR CSA G40-21,
38W/44W/50W/60W/70W SERIES STEEL 18 GAUGE (0.048 THICK)
- 2) FINISH: POWDER COAT GREY SANDTEX (REF.4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) PART IS SYMMETRICAL ABOUT CENTERLINE
- 5) ALL DIMENSIONS IN INCHES
- 6) WELD PER DART QSI 004
- 7) IDENTIFY ON INSIDE SURFACE AS INDICATED USING FINE POINT PERMANENT INK MARKER:
"TCCA-PDA, DART AEROSPACE LTD., P/N D3319-3 B/N BXXXXX,
FOR PRODUCT ELIGIBILITY SEE PDA05-18"

Copyright © 2004 by DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

Copyright © 2004 by DART AEROSPACE LTD

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

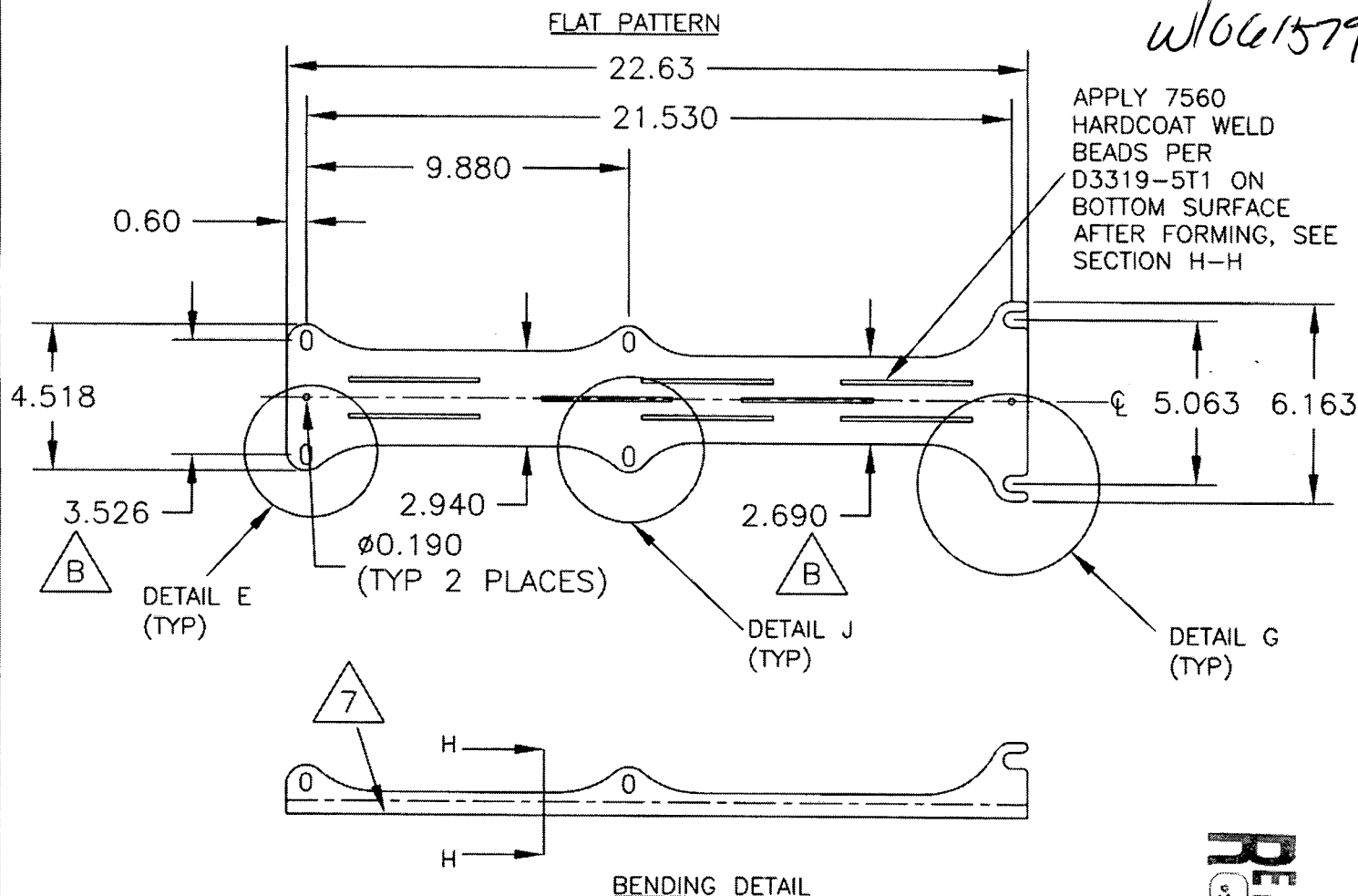
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN	D41	DRAWN BY	D41	DART AEROSPACE LTD
CHECKED		APPROVED		HAWKESBURY, ONTARIO, CANADA
DATE	05.06.06	TITLE	D3319	REV. B
		WEARPLATE		SHEET 3 OF 5
				SCALE 1:5

W/061579



D3319-5 WEARPLATE

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A1008 OR CSA G40-21, 38W/44W/50W/60W/70W SERIES STEEL 18 GAUGE (0.048 THICK)
- 2) FINISH: POWDER COAT GREY SANDTEX (REF.4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) PART IS SYMMETRICAL ABOUT CENTERLINE
- 5) ALL DIMENSIONS IN INCHES
- 6) WELD PER DART QSI 004
- 7) IDENTIFY ON INSIDE SURFACE AS INDICATED USING FINE POINT PERMANENT INK MARKER:
"TCCA-PDA, DART AEROSPACE LTD., P/N D3319-5 B/N BXXXXX,
FOR PRODUCT ELIGIBILITY SEE PDA05-18"

RELEASED
05.07.30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DESIGN	PH	DRAWING BY	PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		REV. B
CHECKED	<i>[Signature]</i>	APPROVED	<i>[Signature]</i>	DRAWING NO.	D3319	SHEET 4 OF 5
DATE	05.06.06	TITLE	WEARPLATE		SCALE	1:5

W/O G1579

Technical drawing of a mechanical part, likely a bracket or flange, showing dimensions and callouts.

Dimensions:

- Overall width: 12.75
- Inner width: 11.650
- Top flange thickness: 0.60
- Vertical distance from top flange to centerline: 4.518
- Vertical distance from centerline to bottom flange: 3.526
- Vertical distance from centerline to bottom flange (right side): 5.063
- Vertical distance from centerline to bottom flange (right side): 6.163
- Horizontal distance from centerline to bottom flange (right side): 2.690
- Horizontal distance from centerline to bottom flange (right side): 0.190 (TYP 2 PLACES)

Callouts:

- APPLY 7560 HARDCOAT WELD BEADS PER D3319-7T1 ON BOTTOM SURFACE AFTER FORMING, SEE SECTION H-H
- DETAIL E (TYP)
- DETAIL G (TYP)
- BENDING DETAIL

Other features:

- Two circular features (possibly holes or welds) are shown, each with a centerline symbol (C).
- A section line H-H is indicated in the BENDING DETAIL.

05-09-30-44

D3319-7 WEARPLATE

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A1008 OR CSA G40-21,
38W/44W/50W/60W/70W SERIES STEEL 18 GAUGE (0.048 THICK)
- 2) FINISH: POWDER COAT GREY SANDTEX (REF.4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) PART IS SYMMETRICAL ABOUT CENTERLINE
- 5) ALL DIMENSIONS IN INCHES
- 6) WELD PER DART QSI 004
- 7) IDENTIFY ON INSIDE SURFACE AS INDICATED USING FINE POINT PERMANENT INK MARKER:
"TCCA-PDA, DART AEROSPACE LTD., P/N D3319-7 B/N BXXXXX,
FOR PRODUCT ELIGIBILITY SEE PDA05-18"

Copyright © 2004 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

Copyright © 2004 by DART AEROSPACE LTD

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

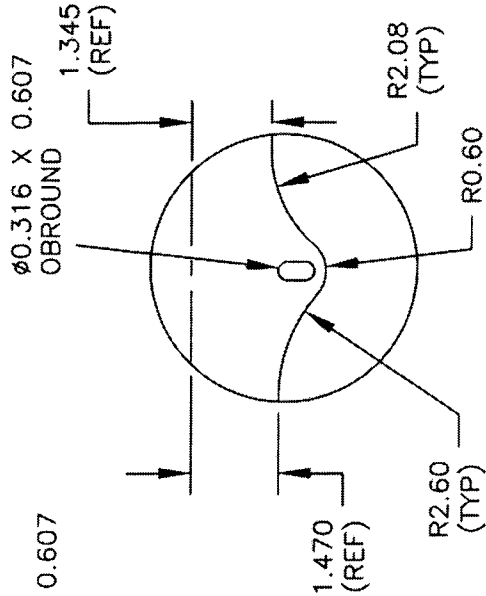
NOTE: Date & initial all entries

w/661579

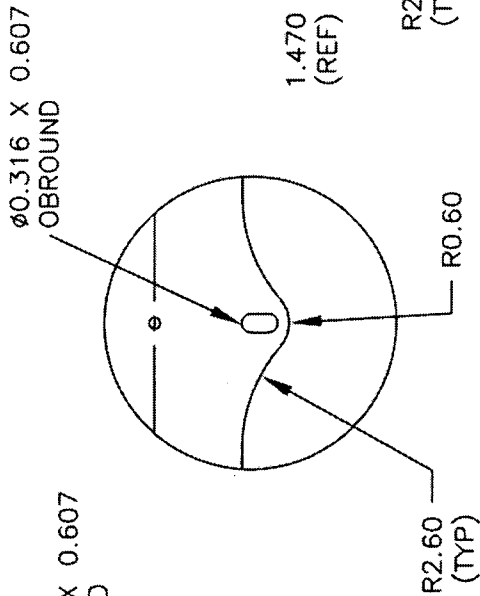


DESIGN PH	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D3319	REV. B SHEET 5 OF 5
DATE 05.06.06		TITLE WEARPLATE	SCALE 1:3

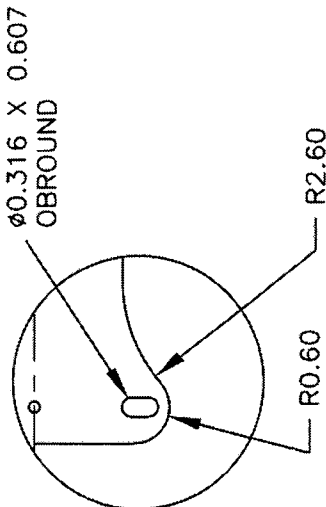
RELEASED
05.09.30



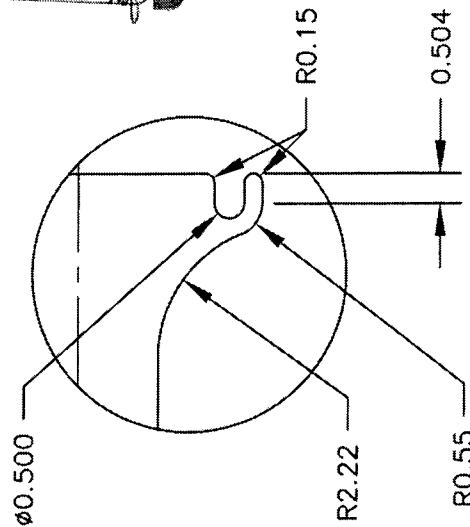
DETAIL J



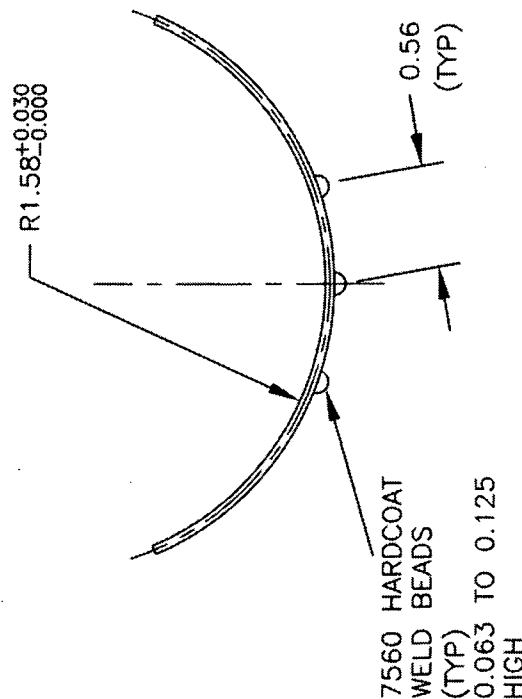
DETAIL F



DETAIL E



DETAIL G



SECTION H-H
(SCALE 1:1)

Copyright © 2004 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries